

REMARKS

The Examiner has rejected claims 1-7, 9-16, 20-25, 27, 33 and 34 under 35 U.S.C. 103(a) as being unpatentable over Holtrop (U.S. Patent 4,529,641) in view of Breezer (U.S. Patent 5,635,129), Byma (U.S. Patent 6,322,658), Steward (U.S. Patent 4,211,590), Haardt (U.S. Patent 5,180,628), Timothy (U.S. Patent 5,775,726), and Juriga (U.S. Patent 5,549,776). Regarding claim 1, Examiner has stated that Holtrop teaches a thermoforming process for a headliner.

Patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case. The Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966).

Under Section 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Office policy has consistently been to follow *Graham v. John Deere Co.* in the consideration and determination of obviousness under 35 U.S.C. 103. The four factual inquires for determining obviousness is briefly as follows:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

The cited references and their US class and subclass are given in Table 1

TABLE 1

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| Holtrop | 428/198 ; 428/316.6; 428/319.3; 428/319.7; 442/372 |
| Breezer | 264/553 ; 264/154; 264/261; 264/263; 264/320; 264/324; 264/511; 264/544; 264/545; 264/554 |
| Byma | 156/309.9 ; 156/62.8; 156/272.2; 156/297; 156/299; 156/300; 156/306.6; 156/307.7; 156/308.2; 156/320; 156/322; 156/327; 156/332; 296/39.1; 296/214; 428/457; 428/458; 428/480; 428/481; 442/120; 442/232; 442/268; 442/286; 442/378; 442/381; 442/394 |
| Steward | 156/79 ; 156/245; 156/253; 264/46.5; 264/156; 264/321; 296/214; 428/31; 428/138; 428/314.4; 428/319.7; 428/319.9 |
| Haardt | 428/215 ; 264/321; 428/316.6; 428/317.9; 428/318.6; 428/319.7; 428/319.9 |
| Timothy | 280/730.1 ; 280/735; 280/756 |
| Juriga | 156/228 ; 156/222; 156/245; 156/308.2; 264/258 |

Note, *none* of the cited references fall in the same primary class and subclass, nor in class and subclass of the instant application, having a class/subclass of **264/250**. Only one of the references (e.g., Breezer) falls within the class of the instant application. Three of the references fall in the same class 156, two references fall in class 428, and one reference falls into class 264 and the other falls into class 280. (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. In view of the disparity in classification, Applicants submit that obviousness is not *prima facie*.

Examiner has stated that Holtrop teaches a thermoforming process for a headliner. Holtrop's claim 1 preamble and col. 5, lines 21-28, describe the invention as a moldable, thermoformable laminate structure that can be formed into items like a headliner. Holtrop's invention is not a headliner, nor is it a process for forming a headliner, but a laminate that can be molded into a headliner. (A) The claimed invention must be considered as a whole. Applicant's invention is not a starting material for making headliners, but a thermoforming process for making headliners. In Holtrop's invention, col. 4, lines 50-68, discloses a method

for forming a material suitable for thermoforming into articles, wherein two layers of foamed thermoplastic having an outer surface polymer impregnated fabric are thermoformed. Applicants' process uses compression thermoforming and vacuum thermoforming, not blow molding.

Taken in the order that the Examiner cited the references, Examiner has stated that Breezer teaches a thermoform process to form articles of significantly greater thickness. The first sheet 30 and the second sheet 34 are vacuum thermoformed creating a cavity, and then fused. The cavity is then filled with heated liquid reinforcement material 48. In Applicants' process, the first sheet and a cover-stock material are compression molded forming a covered first headliner part, and then transferred to a vacuum mold. The second sheet is transferred from a heater to a vacuum mold where it is molded forming a second headliner part. At specific points, the second headliner part and the covered first headliner part are fused forming a covered unified part having at least one interior compartment having head impact cushioning. Breezer teaches a process for forming a reinforced thick article, while Applicants claim a process for forming a covered unified part having at least one interior compartment having head impact cushioning. Criteria A is not met, as when the claimed invention is considered as a whole, then the invention is not obvious. Holtrop in view of Breezer, in addition to other differences, does not teach using compression molding to make a covered first headliner part, and Holtrop teaches that additional molding is required to form the headliner from the Holtrop product. Holtrop and Breezer are in conflict, as Holtrop teaches forming corrugated cavities for strength, and Breezer teaches forming cavities that can be filled for strength. Neither teaches forming an interior compartment for head impact cushioning.

The Examiner has cited Byma as teaching a first and a second sheet heated to a predetermined temperature for optimal compression molding. Byma teaches a unitary composite, col. 1, lines 39-42. Applicants are not teaching a unitary composite as shown in Fig. 3 of Byma. Applicants agree that sheets are heated to a predetermined temperature, but not necessarily to a differential temperature as taught by Byma, and not to a temperature for the purpose of forming a unitary composite.

The Examiner has stated that Steward teaches (6:40-49) the use of tenter frames during a preheating step prior to thermoforming a headliner to avoid shrinkage and surface irregularities. Applicants claim the use of a frame to convey the first and second sheet into the oven, and then into the mold. The frame need not be a tenter frame. Steward teaches moving a flat perforated laminar sheet. The sheets claimed in claim 1 need not be either perforated or laminar. More importantly, Steward teaches in col. 6, lines 54-58, that he is forming a dimpled sheet. Applicants are not forming a dimpled sheet, and require only a frame, not a tenter with specific tension, as taught by Steward.

The Examiner cites e) Haardt, who teaches ejecting a composite laminate part (4:55-56). Applicants teach ejecting a covered unified part formed by vacuum forming and compression, where the covered unified part has at least one interior compartment having head impact cushioning. Haardt teaches a foam filled laminate that is hot molded, and then cooled. Applicants' process does not claim an ejector, but the process of ejecting.

The Examiner has stated that Timothy teaches a roof-mounted airbag. In view of the interior cavities of Timothy, interior cavities would be obvious to one of ordinary skill. Applicants were a little surprised by this cited reference. Applicants' are not claiming an air bag. We believe that the Examiner is correct in that an air bag in the roof would provide head impact cushioning, but Applicants are candidly confused what this reference has to do with the instant invention. Applicants are not claiming an air bag, where an air bag provides impact cushioning only when it is deployed, while the twin sheet assembly with the compartment offers head cushioning without deployment. This reference without doubt makes it clear that the Examiner has not met criteria B. The references must be considered as a whole and must suggest the desirability and, thus, the obviousness of making the combination. Claim 1 does not have an air bag, nor is there any anticipated manner by which an air bag could be incorporated into the invention.

Examiner states that in col. 3, lines 19-20, and col. 6, lines 25-27, that Juriga teaches a thermoform process further comprising the steps of: after heating the first sheet in the oven to

the pre-determined temperature, transferring the heating first sheet to a thermoforming mold, having matched mold halves, col. 3, line 22 and Fig. 4, item 142 and 144; transferring a cover stock material to the thermoforming mold having matched tabs, col. 4, lines 21-23; compressing and fusing the cover stock material to the first sheet forming a cover first headliner part, col. 6, lines 29-33. Applicants' claim 1 claims a process where the cover stock material is not preheated prior to being molded. Juriga's patent teaches that all the layers are heated and laminated. See Fig. 4. Juriga's process teaches in col. 6, lines 15 -20, "The scrim laminae 38 and 39, the foamable lamina 36a, and finish lamina 28, and the adhesive webs 40, 41 and 42 positioned between the laminae are laid in place, preferably on a flat supporting surface. The individual laminae are in face-to-face relation, but remain in an unbonded form until they are heated and molded. The unbonded laminate 120 is placed into a hot air recirculated thermoforming oven 130 containing radiant heat sources 132 and 134." Simply put, Juriga teaches a process where multiple layers are heated and compressed, while Applicants process utilizes compression laminating and molding with matched molds, then vacuum forming with opposing half molds, and then fusing two contoured parts, therein forming a compartmentalized headliner. Juriga process is substantially not similar to Applicants.

The cited art does not meet three of the four factual inquires for determining obviousness. None of the cited art is from the same class and subclass (criteria C). Holtrop is in 428/198; and Applicants invention is in 264/250. Applicants' invention is a process for making a headliner. Holtrop's invention is a material that can be used to make a headliner (criteria C). Breezer teaches a process for forming a reinforced thick article, while Applicants claim a process for forming a covered unified part having at least one interior compartment having head impact cushioning (criteria A). Timothy certainly fails to meet criteria B; where in B the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination. Applicants are not claiming a process for making an air bag in a headliner. The rejection of claim 1 under 35 U.S.C. 103(a) is respectfully overcome.

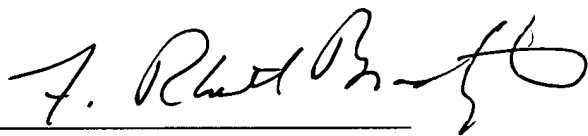
Claim 1, currently amended to distinguish a process step with a type of thermoforming process, is the only independent claim, and all the dependent claims have the limitations of claim 1. Similarly claims 3, 24, 25 and 29 are currently amended to be in concert with claim 1. Claims 2-7, 9-16, 20 and 23-30 are dependent claims, and in view of their dependence are also believed to be allowable.

CONCLUSION

Applicants would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,

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